

Differences in Nonfatal Suicide Behaviors among Mexican and European American Middle School Children

SUSAN R. TORTOLERO, PhD, AND ROBERT E. ROBERTS, PhD

This report describes ethnic and gender differences in suicide ideation among two large samples of middle school students in New Mexico ($n = 2,140$) and Texas ($n = 1,302$). Students completed a self-administered questionnaire on suicide ideation and psychosocial risk factors. Mexican Americans in both samples reported significantly higher prevalence of suicide ideation than did their European American counterparts. Mexican Americans were 1.8 times more likely to have high suicide ideation than European Americans. The suicide ideation risk for Mexican Americans remained unchanged in both samples after adjusting for gender, age, family structure, depression, low social support, and self-esteem. This study indicates that ethnicity plays an important role in suicidal ideation, but the mechanism remains unclear.

Suicide is a major public health problem among youth in the United States (Centers for Disease Control and Prevention, 1994). Although suicide rates differ by age, gender, and ethnicity (Moscicki, 1995), little has been published about ethnocultural differences in these behaviors among youth. Roberts (2000) notes that even the available findings on ethnic differences in adolescent suicidal behaviors are equivocal, with some studies finding ethnic status increasing the risk, some finding ethnic status decreasing the risk, and oth-

ers finding no association (see also Garrison, Addy, Jackson, McKeown, & Waller, 1991).

Data on completed suicides consistently suggest that Hispanic adolescents are less likely than non-Hispanic whites to have completed suicide (Singh, Konhanek, & Macdorman, 1996); however, data on nonfatal suicide behaviors suggest that Hispanic youth are at higher risk. For example, according to the 1997 Youth Risk Behavior Survey (YRBS), conducted among high school students nationwide, Hispanic students were significantly more likely than African American students to have considered attempting suicide (23% vs. 16%), and Hispanics were significantly more likely than European and African American students (20% vs. 14% and 13%, respectively) to have made a suicide plan (Centers for Disease Control and Prevention, 1998). Data from the YRBS on more serious suicide behavior indicates similar ethnic differences (Centers for Disease Control and Prevention, 1998). Overall, Hispanic students (11%) were

SUSAN R. TORTOLERO and ROBERT E. ROBERTS are with the University of Texas Houston Health Science Center, School of Public Health in Houston, Texas.

Address correspondence to Susan R. Tortolero, Ph.D., Assistant Professor of Epidemiology, Prevention Research Center, School of Public Health, University of Texas Houston Health Science Center at Houston, 7000 Fannin 26TH Floor, Houston, Texas 77030. Tel: 713-500-9634. FAX: 713-500-9602. E-mail: stortolero@sph.uth.tmc.edu.

significantly more likely than European American students (6%) to have attempted suicide.

Other studies also report that Hispanic youth from varied backgrounds have a high prevalence of suicide ideation. Roberts, Chen, and Roberts (1997) reported ethnic and gender differences in nonfatal suicide behaviors among an ethnically diverse sample of middle school students. After adjusting for the effects of age, gender, and socioeconomic status, Mexican American students had higher suicide ideation ($OR = 1.76, p < .001$) than European American students; the percentage of Mexican American youths reporting that they had thought about killing themselves on one or more days during the past week was 25% (Roberts et al., 1997). This is similar to a rate of 23% reported by Swanson, Linskey, Quintero-Salinas, Pumariaga, and Holzer (1992) for Mexican American students and of 24% reported by Hovey and King (1996) for a small sample ($n = 70$) of first and second-generation Latino American adolescents.

Moreover, Lester and Anderson (1992) reported that Hispanic students who were mostly of Puerto Rican origin had higher scores on both depression and suicidal ideation than did African American students. Vega, Gil, Zimmerman, and Warheit (1993) reported that Nicaraguans and other Hispanics had the highest levels of lifetime suicide attempts compared to other ethnicities. Similarly, Reynolds and Mazza (1992) reported that Hispanic youths reported a higher rate of lifetime suicide attempts compared to African American youths, and Walter et al. (1995) report that 14% of Hispanics, who were primarily of Dominican origin, reported suicidal behaviors compared to 13% of African Americans and 12% for "Other" ethnicities in a large survey of four middle schools in New York City. Only two studies have reported no association between ethnicity and suicidal ideation (Warheit, Zimmerman, Khoury, Vega, & Gil, 1996; Grunbaum, Basen-Engquist, & Pandey, 1998).

To date, few data have been published on Mexican and European American differences in suicide ideation and whether ethnic

differences might be attributed to differences in factors correlated with both ethnicity and suicidal behaviors. Moreover, few studies have examined suicide ideation in younger populations such as middle school students. The purpose of this report is to describe ethnic and gender differences in suicide ideation among two large samples of middle school students and to examine whether ethnicity constitutes a risk factor for suicidal behaviors independently of other known risk factors.

METHODS

The data presented are from two school-based, cross-sectional surveys conducted in Las Cruces, New Mexico, in 1990–1991, and in Houston, Texas, in 1994. The following describes the data collection procedures.

New Mexico Sample

The study population for the New Mexico sample consisted of 3,008 middle school (grades 6 through 8) students from three of the largest public middle schools in Las Cruces, New Mexico. All 6th through 8th grade students were eligible to participate. Passive parental and active student consent procedures were used. Completed questionnaires were obtained from 2,614 students. Of these, 35% were Anglo, and 52% were Mexican American. The remainder of the sample was composed of a small number of Asian American, American Indian, African American, other Hispanic, or mixed ancestry groups.

Texas Sample

The study population for the Texas sample consisted of middle school students from five middle schools in Houston, Texas, enrolling about 6,400 students. Completed questionnaires were obtained from 5,496 students. Of these, 17% were Anglo, 26% were African American, and 16% were Mexican

American. The remainder was American Indian, Asian American, other Hispanic, or mixed ancestry groups.

Nonparticipants in the New Mexico sample (13.1%) and in the Texas sample (14.7%) consisted of those who refused consent and those who were absent on the day of the surveys. Participation rates did not vary significantly by ethnicity. For the purpose of these analyses, only students of European or Mexican American origin with complete data was used, resulting in a sample size of 1,302 students for the Texas sample and 2,140 students for New Mexico.

Measures

Questionnaire items were adapted from the Oregon Adolescent Depression Project (Hops, Lewinsohn, Andrews, & Roberts, 1990; Roberts, Andrews, Lewinsohn, & Hops, 1990) and are described in detail by other sources (Roberts & Chen, 1995; Roberts et al., 1997; Roberts, Roberts, & Chen, 1998). Measures included: suicide ideation, depression, loneliness, social support, self-esteem, age, gender, discrimination, and language use. In the New Mexico sample, measures of social support and self-esteem were collected for a subset of students, a convenience sample of 760.

In the Texas sample, suicide ideation was measured using items from the DSM Scale for Depression (DSD), a self-administered checklist developed by Robert E. Roberts from stem questions on major depression in the Diagnostic Interview Schedule for Children (National Institute of Mental Health, 1992). Four symptom queries related to suicide ideation: "Felt life was hopeless," "Thought more than usual about death or dying," "Wished you were dead," and "Thought about suicide or killing self." The time frame was the past 2 weeks and the response categories were 0 (*hardly ever or never*), 1 (*sometimes*), 2 (*often*), and 3 (*almost every day*). These items were summed to create a suicide ideation score that ranged from 0–12. Cronbach's alpha was .81 to .87 across ethnic and gender groups. A score of 5 or

greater is considered to be indicative of high suicide ideation. This criterion has been used previously by Roberts et al. (1997).

In the New Mexico sample, suicide ideation questions consisted of four items taken from the Oregon Adolescent Depression Project (Hops, et al., 1990; Roberts, et al., 1990): "Thoughts about death," "Family and friends would be better off if I were dead," "I thought about killing myself," and "I felt that I would kill myself if I knew a way." The time frame was the past week, and the response categories were 1 (*rarely or none*), 2 (*some or a little*), 3 (*occasionally or moderate*), and 4 (*most or all days*). These items were summed to create a suicide ideation score that ranged from 0–12. Cronbach's alpha was .86 to .89 across ethnic and gender groups. A score of 5 or greater is considered to be indicative of high suicide ideation.

Depression measures included the CES-D (New Mexico) and the DSD (Texas). Both measures have been used widely and show good validity and reliability in adolescent populations (Roberts et al., 1997). In both samples, the scales exhibited high internal consistency ($\alpha = .89-.94$). Depression was defined based on DSM-IV criteria for major depressive disorder (American Psychiatric Association, 1994).

The loneliness scale, Roberts version of the UCLA Loneliness Scale or RULS-8, was used in both samples and consisted of 8 items that have been used in other adolescent populations; it has exhibited good validity and reliability ($\alpha = .87-.91$) (Lewinsohn, Rhode, & Seeley, 1993; Roberts, Lewinsohn, & Seeley, 1993; Higbee & Roberts, 1994; Roberts & Chen, 1995). A score of 8 or more is indicative of high loneliness.

In the New Mexico sample, social support was measured using a 5-item scale developed from a pool of items drawn from the Family Environment Scale (Moos, 1990) for the Oregon Adolescent Depression Project. The Chronbach's alpha obtained for the current study was .74 to .83 across ethnic and gender groups. The Texas study used a 6-item social support measure developed by the Voices of Indian Teens Project using the

Multidimensional Scale of Perceived Social Support (Zimet, Powell, Farley, Werkman, & Berkoff, 1990). The Cronbach's alpha obtained for the social support measure in the Texas sample ranged from .77 to .83 across ethnic and gender groups. The criteria for low social support was derived by using one standard deviation below the mean, based on each sample's mean and standard deviation.

Self-esteem was measured using a 6-item version of Rosenberg's (1965) measure for both New Mexico and Texas. Measures exhibited good internal consistency in both the New Mexico ($\alpha = .72-.77$) and the Texas samples ($\alpha = .81-.89$). The criteria for low self-esteem was derived by using one standard deviation below the mean, based on each sample's mean and standard deviation.

A discrimination question was asked of the Texas sample: "How much discrimination have you personally experienced?" with the following response options: "None," "Some," "A little," or "A great deal." Language use was assessed by asking "Do you speak . . . Mostly Spanish, Mostly English, Both equally." Other sociodemographic factors included parental education and whether the child lived in a one- or two-parent household.

Analysis

The statistical package SPSS was used to conduct analyses. Significance levels for all analyses were set at .05. The Texas and New Mexico samples were analyzed separately. Descriptive statistics were performed to determine ethnic differences in sociodemographic variables, suicidal ideation, and other psychosocial factors. To determine if ethnic differences in suicide ideation were explained by differences in sociodemographic factors, a series of logistic regressions were performed to estimate the association between ethnicity and suicide ideation after controlling for potentially confounding factors. Logistic regression was performed by sequentially adjusting for significant covariates to determine if these factors altered the association between ethnic status and suicide ideation. Po-

tentially confounding factors were entered into the model in the following order: socio-demographic variables, language use and discrimination variables, and psychosocial and psychological variables.

RESULTS

Study Population

Complete data were obtained on 3,442 students: a total of 2,140 students in the New Mexico sample and 1,302 students in the Texas sample. Selected demographics are presented for both samples in Table 1. Approximately 59% were Mexican American for the New Mexico sample, whereas 47% were Mexican American for the Texas sample. Gender across the samples was equally distributed. Mexican American students from New Mexico were slightly older than European American students. Of the Mexican American students, 58% of those from Texas and 50% of those from New Mexico reported speaking mostly English at home.

Over two-thirds of students reported living in a two-parent household. In New Mexico, slightly fewer Mexican American students lived in a two-parent household than did European American students (65% vs. 71%, $p < .01$). In both samples, Mexican American students were more likely to have a mother with less than a high school education. However, a large percentage of European American students had a missing response to the maternal education question or reported that they did not know.

Table 2 presents prevalence rates of high suicide ideation by ethnicity and gender. Mexican American females had significantly higher prevalence of suicidal thinking in both samples, they had approximately twice the odds of having suicide ideation compared to European American females. Similarly, Mexican American males had a higher prevalence of suicide ideation in both samples, and were approximately 60% more likely to have suicide ideation than European American males.

TABLE 1
Sociodemographic Characteristics of New Mexico (n = 2,140) and Texas (n = 1,302) Middle School Students

Characteristic	New Mexico				Texas			
	MA n = 1,259 (%)		Anglo n = 881 (%)		MA n = 608 (%)		Anglo n = 694 (%)	
Gender:								
Male	594	(47)	432	(49)	288	(47)	323	(47)
Female	665	(53)	449	(51)	320	(53)	371	(53)
Age:								
≤12 years	556	(44)	467	(53)	202	(33)	262	(38)
13 years	417	(33)	286	(32)	204	(34)	240	(35)
≥14 years	286	(23)	128	(15)	202	(33)	192	(28)
	<i>p</i> < .01							
Language Use:								
Mostly only English	732	(58)	870	(99)	303	(50)	689	(99)
Other	527	(42)	11	(01)	305	(50)	5	(01)
	<i>p</i> < .01				<i>p</i> < .01			
Household Structure:								
Two parents	816	(65)	628	(71)	480	(79)	546	(79)
Other	443	(35)	253	(29)	128	(21)	148	(21)
	<i>p</i> < .01							
Mother's Education:								
<HS	254	(20)	40	(05)	138	(23)	31	(05)
HS Graduate	290	(23)	134	(15)	106	(17)	145	(21)
<4yr College	144	(11)	184	(21)	69	(11)	133	(19)
College Graduate	72	(06)	269	(30)	58	(10)	234	(34)
Missing/NA	499	(04)	254	(29)	237	(39)	151	(22)
	<i>p</i> < .01				<i>p</i> < .01			

Table 3 displays results from the multivariate analysis. In both samples, Mexican Americans were about 1.8 times more likely to have high suicide ideation than European

Americans. The suicide ideation risk for Mexican Americans remained unchanged in both samples after adjusting for gender, age, and family structure. After adjustment for

TABLE 2
Prevalence of Suicide Ideation by Ethnicity and Gender for New Mexico (n = 2,140) and Texas (n = 1,302) Middle School Students

	New Mexico			Texas	
	%	OR (95% CI)		%	OR (95% CI)
Males					
European	12	1.00	14	1.00	
Mexican American	18	1.68 (1.18–2.39)	20	1.60 (1.04–2.06)	
Females					
European	14	1.00	18	1.00	
Mexican American	24	1.90 (1.39–2.60)	31	2.04 (1.43–2.92)	

Note. OR = odds ratio; CI = confidence interval.

TABLE 3
Logistic Regression Models of the Relation between Mexican American Ethnicity and Suicide Ideation after Adjustment for Potential Confounding Factors

	New Mexico		Texas	
	OR	95% CI	OR	95% CI
I. Mexican American	1.79	1.40–2.28	1.83	1.39–2.41
II. Adjusted for gender	1.79	1.40–2.27	1.85	1.40–2.43
II. Adjusted for age	1.78	1.40–2.26	1.78	1.35–2.34
III. Adjusted for family structure	1.73	1.36–2.20	1.79	1.35–2.36
IV. Adjusted for mother’s education	1.49	1.15–1.93	1.55	1.14–2.09
V. Adjusted for language use	1.31	1.01–1.74	1.51	1.07–2.14
VI. Adjusted for discrimination	—	—	1.64	1.10–2.46
VIII. Adjusted for depression	1.45	1.07–1.96	1.62	1.06–2.48
IX. Adjusted for self-esteem	—	—	1.59	1.01–2.51
X. Adjusted for social support	—	—	1.59	1.01–2.51

mother’s educational level, the odds ratio (OR) for Mexican Americans decreased slightly in both samples, but remained significantly elevated (OR = 1.49 New Mexico and OR = 1.55 Texas). Adjusting for language use at home decreased the odds ratio slightly for Mexican Americans in the New Mexico sample, but not in the Texas sample. Further, adjusting for self-reported discrimination did not change the odds ratio. While depression is a strong risk factor for suicide ideation, adjusting for depression did not significantly change the strength of association between being Mexican American and having high suicide ideation (see Model VII). Further adjustment for low self-esteem and low social support was performed for the Texas sample only, due to small numbers in the New Mexico sample. Adjusting for low social support and self-esteem did not change the association between being Mexican American and having high suicide ideation.

DISCUSSION

Results from this study demonstrate that Mexican American youth in these samples report higher rates of suicide ideation than their European American counterparts. This association was demonstrated using two

independent samples of middle school students living in different states. The magnitude of the association was highly consistent in both samples. For example, the crude odds for suicide ideation among Mexican Americans females was twice that of European Americans in both samples. Similarly, Mexican American males in both samples had approximately 1.6 times the odds of having high suicide ideation compared to European American males.

Ethnic differences in suicide ideation were further assessed by examining potential confounders that might explain these observed differences in the groups. After adjustment for gender, age, family structure, maternal education, and language use, Mexican Americans remained at increased risk for high suicide ideation. Further, after adjusting for depression and other psychosocial factors, we found that Mexican Americans had about a 45% to 60% greater risk of high suicide ideation than Anglos. Accordingly, the study provides consistent evidence and cross validation that Mexican American youth are at increased risk for suicide ideation and that the sociodemographic factors measured do not completely explain these ethnic differences.

Available results from other studies suggest that being Hispanic may increase the

risk of suicidal behaviors, but also that these effects vary depending on the outcome examined (ideation vs. plans vs. attempts) and the Hispanic group studied (Lester & Anderson, 1992; Reynolds & Mazza, 1992; Vega et al., 1993; Walter et al., 1995; Roberts et al., 1997; Centers for Disease Control and Prevention, 1998). The National Youth Risk Behavior Study (NYRBS) reports that Hispanics are about 1.7 times more likely to have high suicide ideation compared to European American adolescents (Centers for Disease Control and Prevention, 1998). This estimate is remarkably similar to the estimate in the current study (crude OR = 1.78–1.83).

Factors accounting for ethnic differences in suicide ideation need further clarification. Several authors have offered explanations for ethnic differences related specifically to depression and suicide (Vega et al., 1993; Cuellar, Nyberg, Maldonado, & Roberts, 1997; Hovey, 1998; Roberts, 2000). For example, in a recent review, Roberts (2000) summarizes findings suggestive that Mexican American youth are at greater risk for depression, and substantial evidence exists for the role of depression in suicidal behaviors (Lewinsohn et al., 1993; Shaffer & Hicks, 1994; Roberts & Chen, 1995; Pfeffer, 1997; Roberts et al., 1998). Depression has been implicated as such a strong risk factor for suicide behaviors that Lewinsohn and colleagues (1993) argue that suicide behavior should be considered an expression of severe depression.

Others have suggested that Mexican Americans and Mexican origin populations may be particularly vulnerable for mental health problems because of acculturative stress. Hovey and King (1996) found that acculturative stress was significantly correlated with suicide ideation and depression among Hispanic adolescents. Further, Vega et al. (1993) suggest that acculturative stress leading to family stress results in mental health problems for Hispanic youth (Vega et al., 1993). It has been suggested that this subsequent intergenerational family conflict may produce child problems resulting from discrimination and perception of diminished

opportunity. In our study, perceived discrimination did not explain ethnic differences in suicide ideation; however, those who perceived a great deal of discrimination against their ethnic group were twice as likely to have high suicide ideation (OR = 2.20; 95% CI = 1.03–4.68), and those who reported personal discrimination were 3.7 times more likely to have high suicide ideation (95% CI = 1.92–7.12). However, we also found Mexican Americans to have higher rates of high suicide ideation whether they comprised a minority population as in the Texas sample or a majority population as in New Mexico.

Another possible explanation of this higher risk relates to the role of Mexican culture in relation to the epidemiology of depression and suicide ideation. For example, Ross, Mirowsky, and Cockerham (1983) report that persons of Mexican origin are more fatalistic, and that the Mexican culture has contradictory effects on mental health by increasing symptoms of depression and decreasing symptoms of anxiety. Increased risk for depression may be attributable to a higher prevalence of belief in external control among persons of Mexican heritage. A more recent paper by Neff and Hoppe (1993) suggests that ethnic differences in depression are the result of the complex interaction of acculturation, fatalism, and religiosity. Fatalism, or feelings of a lack of control over life circumstances, may lead to impaired coping effort, which in turn leads to psychological distress because fatalistic beliefs destroy both the will and the ability to cope with life's problems (Kohn, 1972; Pearlin & Schooler, 1978; Wheaton, 1980). Although fatalism appears to be one possible explanation for the higher prevalence of mental health problems such as depression and suicide among Mexican American youths, no studies have yet examined this issue in adolescent samples.

The major limitation to this study is that the cross-sectional study design does not allow us to draw causal inferences about these associations. Nevertheless, these findings provide both additional evidence that Mexican Americans have higher suicide ideation and a strong rationale for further inves-

tigation of these associations in a longitudinal design. A second limitation is that this study was conducted in two sites in the southwest part of the United States and may not be generalized to all Hispanic groups nor to Mexican Americans living in other parts of the United States.

Another limitation is the use of a fairly inclusive measure of suicide ideation. When using a more restrictive measure of having daily suicidal thoughts in the multivariate models, a similar pattern of elevated risk among Mexican Americans was observed after controlling for gender, age, and family structure. However, because of the low base rates for suicidal thinking, we had limited power to detect significant differences in the ethnic groups after controlling for all factors. In general, measures of nonfatal suicidal behavior have been hindered by the lack of standard nomenclature (Garrison, 1989; O'Carroll et al., 1996; Moscicki, 1997; Roberts, 2000), by the lack of clear operational definitions (Moscicki, 1989; Garrison et al., 1991; Lewinsohn et al., 1993; Moscicki, 1997), and by the absence of lethality measures.

This study yields important implications for clinicians, parents, school officials, and researchers. Although it appears that Mexican American youth are at increased risk for suicide ideation compared to European American youth, psychosocial, cultural, and economic determinants have not been elucidated. Nevertheless, those working with Mexican American youth populations should be aware that many of these youth experience

very stressful life conditions—poverty, migration, cultural estrangements, and discrimination—that may place them at increased risk for mental health problems such as suicide ideation. In addition, a small but growing body of epidemiological literature on the subsequent life experience of adolescents who make nonfatal suicide attempts indicate that such youths are at very high risk of continued suicidal behaviors, including ideation and plans for committing suicide, which make it important for clinicians, school officials, and parents to pay attention to subsequent poor functioning among youth who have high suicide ideation (Lewinsohn et al., 1993; Shaffer et al., 1996; Roberts et al., 1998).

This paper highlights the importance of further understanding ethnic differences in suicidal behaviors among youth, particularly among Mexican American youth. It appears that ethnic differences in suicide ideation begins as early as middle school and that factors not yet elucidated may explain ethnic differences. Suggested direction of research include examining precipitating factors such as acculturative stress, fatalism, discrimination, and the role of depression among these populations. More rigorous study designs, such as longitudinal studies with more extensive assessment of intent and lethality, are needed to increase our understanding of suicidal behaviors, risk factors, social context, and the role of ethnicity in these behaviors throughout adolescent development.

REFERENCES

- AMERICAN PSYCHIATRIC ASSOCIATION. (1994). *Diagnostic and Statistical Manual of Mental Disorders* (4th Ed.). Washington, DC: American Psychiatric Association.
- ANDREWS, J. A., & LEWINSOHN, P. M. (1992). Suicidal attempts among older adolescents: Prevalence and co-occurrence with psychiatric disorders. *Journal of the American Academy of Child and Adolescent Psychiatry*, 31, 655–662.
- CENTERS FOR DISEASE CONTROL AND PREVENTION. (1994). Programs for the prevention of suicide among adolescents and young adults. *Morbidity and Mortality Weekly Report*, 43, 1–7.
- CENTERS FOR DISEASE CONTROL AND PREVENTION. (1998). Youth risk behavior surveillance—United States, 1997. *Morbidity and Mortality Weekly Report*, 47, 1–89.
- CUELLAR, I., ROBERTS, R. E., NYBERG, B., & MALDONADO, R. E. (1997). Ethnic identity and acculturation in a young adult Mexican-origin population. *Journal of Community Psychology*, 25, 535–549.

- GARRISON, C. Z. (1989). The study of suicidal behavior in the schools. *Suicide and Life-Threatening Behavior*, 19, 120-130.
- GARRISON, C. Z., JACKSON, K. L., ADDY, C. L., MCKEOWN, R. E., & WALLER, J. L. (1991). Suicidal behaviors in young adolescents. *American Journal of Epidemiology*, 133, 1005-1014.
- GRUNBAUM, J. A., BASEN-ENGQUIST, K., & PANDEY, D. (1998). Association between violent behaviors and substance use among Mexican-American and non-Hispanic White high school students. *Journal of Adolescent Health*, 23, 153-159.
- HIGBEE, K. R., & ROBERTS, R. E. (1994). Reliability and validity of a brief measure of loneliness with Anglo-American and Mexican-American adolescents. *Hispanic Journal of Behavioral Science*, 16, 459-474.
- HOPS, H., LEWINSOHN, P. M., ANDREWS, J. A., & ROBERTS, R. E. (1990). Psychosocial correlates of depressive symptomatology among high school students. *Journal of Clinical and Child Psychology*, 19, 211-220.
- HOVEY, J. D. (1998). Acculturative stress, depression, and suicidal ideation among Mexican-American adolescents: Implications for the development of suicide prevention programs in schools. *Psychological Reports*, 83, 249-250.
- HOVEY, J. D., & KING, C. A. (1996). Acculturative stress, depression, and suicidal ideation among immigrant and second-generation Latino adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, 35, 1183-1192.
- KOHN, M. (1972). Class, family, and schizophrenia. *Social Forces*, 50, 295-304.
- LESTER, D., & ANDERSON, D. (1992). Depression and suicidal ideation in African American and Hispanic American high school students. *Psychological Reports*, 71, 618.
- LEWINSOHN, P. M., ROHDE, P., & SEELEY, J. R. (1993). Psychosocial characteristics of adolescents with a history of suicide attempt. *Journal of the American Academy of Child and Adolescent Psychiatry*, 32, 60-68.
- MOOS, R. H. (1990). Conceptual and empirical approaches to developing family-based assessment procedures—resolving the case of the Family Environment Scale. *Family Process*, 29, 199-208.
- MOSCICKI, E. K. (1989). Epidemiologic surveys as tools for studying suicidal behavior: A review. *Suicide and Life-Threatening Behavior*, 19, 131-146.
- MOSCICKI, E. K. (1995). Epidemiology of suicidal behavior. *Suicide and Life-Threatening Behavior*, 25, 22-35.
- MOSCICKI, E. K. (1997). Identification of suicide risk factors using epidemiologic studies. *Psychiatric Clinics of North America*, 20, 499-517.
- NATIONAL INSTITUTE OF MENTAL HEALTH. (1992). *Diagnostic and statistical inventory schedule for children: Child informant interview about self* (NIMH Contract No. 278-89-0001). Washington, DC: U.S. Government Printing Office.
- NEFF, J. A., & HOPPE, S. K. (1993). Race/ethnicity, acculturation, and psychological distress: Fatalism and religiosity as cultural resources. *Journal of Community Psychology*, 21, 3-20.
- O'CARROLL, P. W., BERMAN, A. L., MARIS, R. W., MOSCICKI, E. K., TANNEY, B. L., & SILVERMAN, M. M. (1996). Beyond the Tower of Babel: A nomenclature for suicidology. *Suicide and Life-Threatening Behavior*, 26, 237-252.
- PEARLIN, L. I., & SCHOOLER, C. (1978). The structure of coping. *Journal of Health and Social Behavior*, 19, 2-21.
- PFEFFER, C. R. (1997). Suicide and suicidality. In J. M. Weiner (Ed.), *Textbook of child and adolescent psychiatry* (pp. 727-738). Washington, DC: American Psychiatric Press.
- REYNOLDS, W. M., & MAZZA, J. J. (1992). *Suicidal behavior in non-referred adolescents*. Paper presented at the International Conference for Suicidal Behavior, Western Psychiatric Clinic, Pittsburgh, PA.
- ROBERTS, R. E. (2000). Depression and suicidal behaviors among adolescents: The role of ethnicity. In I. Cuellar & F. H. Paniagua (Eds.), *Handbook of multi-cultural mental health*. San Diego: Academic Press.
- ROBERTS, R. E., ANDREWS, J. A., LEWINSOHN, P. M., & HOPS, H. (1990). Assessment of depression in adolescents using the Center for Epidemiologic Studies Depression Scale. *Psychological Assessment: A Journal of Consulting and Clinical Psychology*, 2, 122-128.
- ROBERTS, R. E., & CHEN, Y. W. (1995). Depressive symptoms and suicidal ideation among Mexican-origin and Anglo adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, 34, 81-90.
- ROBERTS, R. E., CHEN, Y. R., & ROBERTS, C. R. (1997). Ethnocultural differences in prevalence of adolescent suicidal behaviors. *Suicide and Life-Threatening Behavior*, 27, 208-217.
- ROBERTS, R. E., LEWINSOHN, P. M., & SEELEY, J. R. (1993). A brief measure of loneliness suitable for use with adolescents. *Psychological Reports*, 72, 1379-1391.
- ROBERTS, R. E., ROBERTS, C. R., & CHEN, Y. R. (1998). Suicidal thinking among adolescents with a history of attempted suicide. *Journal of the American Academy of Child and Adolescent Psychiatry*, 37, 1294-1300.
- ROSENBERG, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- ROSS, C. E., MIROWSKY, J., & COCKERHAM, W. C. (1983). Social class, Mexican culture, and fatalism: Their effects on psychological dis-

treess. *American Journal of Community Psychology*, 11, 383-399.

SHAFFER, D., GOULD, M. S., FISHER, P., TRAUTMAN, P., MOREAU, D., KLEINMAN, M., & FLORY, M. (1996). Psychiatric diagnosis in child and adolescent suicide. *Archives of General Psychiatry*, 53, 339-348.

SHAFFER, D., & HICKS, R. (1994). Suicide. In I. B. Pless (Ed.), *Epidemiology of childhood disorders* (pp. 339-365). New York: Oxford University Press.

SINGH, G. K., KONHANEK, K. D., & MACDORMAN, M. F. (1996). Advance report of final mortality statistics, 1994. *Monthly Vital Statistics Report*, 45(3).

SWANSON, J. W., LINSKEY, A. O., QUINTERO-SALINAS, R., PUMARIEGA, A. J., & HOLZER, C. E., III. (1992). A bi-national school survey of depressive symptoms, drug use, and suicidal ideation. *Journal of the American Academy of Child and Adolescent Psychiatry*, 31, 669-678.

VEGA, W. A., GIL, A. G., ZIMMERMAN, R. S., & WARHEIT, G. J. (1993). Risk factors for suicidal behavior among Hispanic, African-American, non-Hispanic white boys in early adolescents. *Ethnicity and Disease*, 3, 229-241.

WALTER, H. J., VAUGHAN, R. D., ARMSTRONG, B., KRAKOFF, R. Y., MALDONADO, L. M., TIEZZI, L., & MCCARTHY, J. F. (1995). Sexual, assaultive, and suicidal behaviors among urban minority junior high school students. *Journal of the American Academy of Child and Adolescent Psychiatry*, 34, 73-80.

WARHEIT, G. J., ZIMMERMAN, R. S., KHOURY, E. L., VEGA, W. A., & GIL, A. G. (1996). Disaster related stress, depressive signs and symptoms, and suicidal ideation among a multi-racial/ethnic sample of adolescents: A longitudinal analysis. *Journal of Child Psychology and Psychiatry*, 37, 435-444.

WHEATON, B. (1980). The sociogenesis of psychological disorder: An attributional theory. *Journal of Health and Social Behavior*, 21, 100-124.

ZIMET, G. D., POWELL, S. S., FARLEY, G. K., WERKMAN, S., & BERKOFF, K. A. (1990). Psychometric characteristics of the multidimensional scale of perceived social support. *Journal of Personality Assessment*, 55, 610-617.

Manuscript Received: April 7, 1999

Revision Accepted: February 15, 2000